Exploring Electricity – Investigations 1-3

Study Guide

Review the following:

* Vocabulary – Lab Learner pages 1, 10, and 19
* Positive, Negative, and Neutral Charges
* Examples of 3 things that use electricity in your house
* Be able to answer the following questions
  + What conclusions can you draw about rubbing and static electricity. Give an example from the lab (think balloons, rubbing, pepper, and hair)
  + Explain how you would build a complete circuit with a balloon, wire, and light bulb.

Investigation 1: Discovering Static Electricity

1. Electricity happens because charged particles move from one material to another.
2. Protons are positively charged. (+)
3. Electrons are negatively charged. (-)
4. Neutrons have no charge. (N)
5. The electrical charge is determined by the charge of its atoms.
6. When two materials rub together there is a charge of electricity called static electricity.

Investigation 2: Observing Electrical Charge

1. Static electricity happens when normally uncharged surfaces develop a charge.
2. Electron transfer (movement) occurs when two surfaces are rubbed together.
3. Wool gives up electrons.
4. Balloons accept electrons.
5. Opposite charges attract one another.
6. Like charges repel one another.

Investigation 3: Understanding Simple Circuits

1. A current is the flow of electricity along a path.
2. Most electricity uses wires to travel.
3. Light bulbs are indicators in electrical circuits.
4. The three parts of a light bulb are the filament, tip, and base.
5. A battery has a positive end and a negative end.